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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/775,338

02/11/2004

Mugen Kawazu

044499-0202

8560

22428

7590

11/03/2006

FOLEY AND LARDNER LLP
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EXAMINER

DEBERADINIS, ROBERT L

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/775,338

Applicant(s)

KAWAZU ET AL.

Examiner

Robert DeBeradinis

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/28/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☒ Other: JP02118465A.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5,8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over BROWN 6,388,563 in view of ANDERSON 5,628,013.

Regarding claim 1,10

BROWN discloses a modular emergency stop relay with network communication (abstract). The emergency stop relay assembly has means to expand its switching functions (figure 6) having one or more safety switches and an input circuit for receiving safety input signals from one or more external input terminal sections and an output extension module which is one of the extension modules includes an external output terminal section that can be connected to an output control system of a dangerous source and an output circuit for transmitting a safety output signal to an external output terminal section.

BROWN is silent as to a basic module has operation program storing part for storing a safety operation program for defining the relation between the state of a safety input signal and the state of a safety output signal on each of types of predetermined safety switches, type of switch setting part for setting an external input terminal section and the type of a safety switch to be connected to external section, operating program

executing part for selecting a safety operation program corresponding to the type of the switch set by the setting part among a plurality of safety operation programs stored in the operation program storing part and executing the program for the external input terminal section set by the setting part.

ANDERSON discloses a computer system containing a motherboard and that certain modules in a computer system are grouped together to form tasks and frequently, a DSP task will contain a basic module to perform a particular job and that operating software execute the stored programs to perform the desired task.

It would have been obvious to one having ordinary skill in the art at the time of this invention to have modified the modular emergency stop device to include a motherboard provided with an extension slot for connecting the modular emergency stop devices with the extension modules and to provide the interconnecting means to connect the basic module having the storing part with the modular emergency stop device providing the operating software to control a plurality of emergency stop devices that would be software controlled to adapt to the safety functions of a complex system.

Regarding claim 2.

BROWN discloses external input terminal section and external output terminal section (figures 5, 6).

Regarding claim 3.

BROWN teaches the module includes part for executing a diagnostic program (col. 9, lines 23-65).

Regarding claim 4.

BROWN teaches a troubleshooting-program storing part which stores a troubleshooting program for troubleshooting a safety switch (col. 10, lines 1-15).

Regarding claim 5.

BROWN discloses the troubleshooting of an electromagnetic switch having a solenoid includes a diagnostic function for troubleshooting the solenoid (col. 10, lines 24-38).

Regarding claim 8.

BROWN discloses executing an output monitoring program for monitoring the state of a contactor (col. 10, lines 24-37).

Regarding claim 9.

BROWN teaches monitoring a state of a device. Phase lock in a phase lock control (PLC) is a state condition for a phase lock control loop.

It would be obvious to one having ordinary skill in the art at the time of this invention to monitor the state of the PLC to determine the state of the system.

Regarding claims 10-14.

BROWN discloses a safety operation program corresponding to the emergency stop switch.

BROWN does not disclose the system configuration or the programs corresponding to the control of the above claims.

It would be obvious to one having ordinary skill in the art to generate a program to control an emergency stop switch to protect the operator from a particular safety hazard in a particular system.

Claims 6,7 are rejected under 35 U.S.C. 103(a) as being unpatentable over BROWN 6,388,563 in view of ANDERSON 5,628,013 in further view of JP402118465A. Regarding claims 6,7.

BROWN in view of ANDERSON disclose the safety controller according to claim 4.

BROWN in view of ANDERSON does not disclose the history generating function.

JP"465" discloses the history generating function.

It would have been obvious to one having ordinary skill in the art at the time of this invention to have modified the safety controller to diagnose the contact deterioration of a safety switch in accordance with aging.

Any inquiry concerning this communication should be directed to Robert L. DeBeradinis whose number is (571) 272-2049. The Examiner can normally be reached Monday-Friday from 8:30 am to 5:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Brian Sircus, can be reached on (571) 272-2058. The Fax phone number for this Group is (703) 872-9306.

RLD

OCTOBER 26, 2006

A handwritten signature in black ink, appearing to read 'Robert L. DeBeradinis', is written over a horizontal line.

ROBERT L. DEBERADINIS
PRIMARY EXAMINER